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ABSTRACT

One of twelve individualized courses included in an automotive repair curriculum, this course covers the techniques of minor automotive servicing. The course is comprised of four units: (1) Oil Changing, (2) Chassis Lubrication, (3) Tires, and, (4) Minor Body Adjustments. Each unit begins with a Unit Learning Experience Guide that gives directions for unit completion. The remainder of the unit consists of Learning Activity Packages (LAP) that provide specific information for completion of a learning activity. Each LAP is comprised of the following parts: objective, evaluation procedure, resources, procedure, supplemental sheets, study guide, and a LAP test with answers. The course is preceded by a pretest which is designed to direct the student to units and performance activities. (LRA)

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ED197151

MOUNTAIN PLAINS LEARNING EXPERIENCE GUIDE:
Automotive Repair.

Course: Detailing and Servicing.

CE027780

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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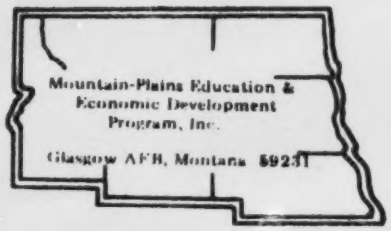

Learning Experience Guide

COURSE: DETAILING AND SERVICING

DESCRIPTION:

Detailing and servicing covers the techniques of minor automotive servicing.

RATIONALE:

The techniques covered in this course will enable you to change oil, lubricate, change and repair tires, wash and inspect.

PREREQUISITES:

None

OBJECTIVE:

Perform automotive detailing tasks of oil changing, lubrication, changing tires, and minor body adjustments.

RESOURCES:

A course resource list is attached.

GENERAL INSTRUCTIONS:

This course has four units. Each unit has a Unit Learning Experience Guide (LEG) that gives directions for unit completion. Each unit consists of Learning Activity Packages (LAPs) that provide specific information for completion of a learning activity. Pretesting results direct the student to units and performance activities.

The general procedure for this course is as follows:

(1) Read the assigned unit LEG for this course.
(2) Begin and complete the first assigned LAP.
    a. Take and score the LAP test.
    b. Turn in the LAP test answer sheet.
    c. Determine the reason for any missed items on the LAP test.

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GENERAL INSTRUCTIONS (Cont.)

d. Proceed to the next assigned LAP in the unit.
e. Complete all required LAPs for the unit by following steps (a) through (d).

(3) Take the unit tests as described in the Unit LEG "Evaluation Procedures".
(4) Proceed to the next assigned unit in this course.
(5) Follow steps 1 through 4 for all required units for this course.
(6) Proceed to the next assigned course..

You will work independently unless directed to do otherwise. When questions or problems arise, you are expected to discuss them with the instructor. At all times remember to follow correct safety procedures during the performance activity.

UNIT TITLES:

.01 Oil Changing
.02 Chassis Lubrication
.03 Tires
.04 Minor Body Adjustments

EVALUATION PROCEDURE:

Course evaluation is by pre and post testing using a multiple-choice type of test.

In this course, the course test is used as a pretest to determine which units, if any, the student may be able to validate. The student is considered validated for a particular unit if 4 out of 5 items are correctly answered for each LAP part on the course pretest and that particular unit does not have a performance test requirement.

For those units with performance test requirements, the student must also satisfactorily complete the performance test to validate that unit. Unit performance tests validation procedures are given in the "Evaluation Procedure" section of the unit Learning Experience Guide (LEG)

The course test will also be taken by the student as a post test to determine any changes resulting from taking all or part of the course.

Score at least 80% on the course post test.

FOLLOW-THROUGH:

Go to the first unit Learning Experience Guide (LEG) listed on your Student Progress Record (SPR).

RESOURCE LIST

Printed Materials

1. Auto Service and Repair. Martin W. Stockel, Goodheart-Willcox Company, Inc., 1969.
2. Motor's Auto Repair Manual. Motor. The Hearst Corporation, 1972 or equivalent.
3. Time and Parts Manual.

Audio/Visuals

Super 8 Sound Film: Auto Mechanics Tire Changing

DCA Educational Products, Inc.

1. Mounting and Leakage Tests (#FAA022).
2. Nomenclature and Remounting (#FAA012).

Equipment

1. Air pressure guage.
2. Automobile needing: oil change
   lube job
   tires changed & rotated
   doors, hood & trunk lid adjusted
3. Buffer.
4. Chassis lubricant .
5. Clean cloth.
6. Compressed air.
7. Drain pan.
8. Fender covers.
9. Jacks and jackstands or lift.
10. Lubrication sticker.
11. Lubricant, spray.
12. Oil.
13. Oil drain dispenser.
14. Oil filter.
15. Oil filter wrench.
16. Patch, tire.
17. Rubber cleaner.
18. Rubber lubricant.
19. Tire change machine.
20. Tire with leak.
21. Tire patch glue.
22. Tire patch roller.
23. Tools, basic hand.
24. Projector, AVT Systems Super 8 mm Instant Film Loop Player.
25. Water tub & water.
26. Windshield cleaner.
27. Wire brush.

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COURSE TEST: DETAILING AND SERVICING

37.12.01.01

1. How much do you turn a spin-on oil filter after you have engaged the base of the engine?

   a. full turn.
   b. quarter of a turn.
   c. two full turns.
   d. half a turn to three-quarters of a turn.

2. What kind of wrench do you use to remove a spin-on type of oil filter?

   a. a chain wrench.
   b. a crescent wrench.
   c. a pipe wrench.
   d. a special band wrench.

3. What do you do after changing an oil filter and adding new oil?

   a. check for leaks.
   b. check for oil passage.
   c. check for air lock.
   d. check for (type of) oil.

37.12.01.02

4. To prevent starting the engine when there is no oil in the crankcase, you should:

   a. make a note that you have not put oil in and place on windshield.
   b. take the keys out of ignition.
   c. disconnect the battery cable.
   d. both a and b.

5. When you have changed the oil in an engine, what should you do prior to starting engine?

   a. chack the valve tappets.
   b. check for oil leaks.
   c. check oil level.
   d. check the oil pump.

37.12.02.01

6. Many of the newer cars have universal joints that are made of?

   a. leather.
   b. teflon.
   c. rubber.
   d. asbestos.

7. Where rubber bushings are used, what kind of lubrication is used:

   a. grease.
   b. chassis lube.
   c. transmission oil.
   d. rubber lube.

37.12.02.02

8. A grease zerk, failing to take grease, should be:

   a. passed over; it has enough grease.
   b. cleaned or replaced.
   c. replaced by a grease plug.
   d. put an O ring under the grease zerk.

9. Chassis lubes should be done:

   a. at the same time as an oil change.
   b. once a year.
   c. about every 30,000 miles.
   d. only when all the old grease is gone.

10. On sealed bearings, how can you tell when the fitting has had enough lubrication?

   a. when a slight pressure is built up on the grease gun handle.
   b. when grease comes out of the seal.
   c. by hooking up an oscilloscope.
   d. by using a dial indicator on the grease gun.

37.12.03.01

11. When mounting a tubeless tire, to seat the beads you may have to:

   a. put your arms around the center of the tire and squeeze.
   b. bounce the tire.
   c. apply pressure to the center of the tire tread area.
   d. keep putting air into the tire until it seats.

12. Why should a mechanic immerse a tubeless tire in water after mounting it on a rim?

   a. to check for leaks.
   b. to check its balance.
   c. to check its buoyancy.
   d. to check the condition of the rim.

37.12.03.01 (continued)

13. The bead area of a tire is the:

a. outer edge on the face of a tire
b. sealing surface of a tire.
c. inner edge on the face of a tire.
d. the center area on the face of tire.

14. What piece of equipment should be used when the bead does not seat on the tire rim?

a. hydraulic tire breaker.
b. tire cage.
c. an expander.
d. two pry bars.

15. Why should a mechanic check his tire changing equipment from time to time?

a. to increase safety hazards for the mechanic.
b. to increase maintenance cost.
c. to insure that there are no burrs or sharp edges.
d. to comply with safety laws.

37.12.03.02

16. According to a Goodyear chart, when rotating five tires, where should the right rear tire usually go.

a. spare.
b. right front.
c. left front.
d. left rear.

17. When rotating tires, a radial tire on the left rear would go?

a. right rear.
b. left front.
c. right front.
d. spare.

37.12.03.03

18. In case of a puncture or other leak in a tire, the first thing you do when repairing the tire is to:

a. break the bead on the tire.
b. remove the tire from the rim.
c. mark location of leak.
d. put a patch over the hole where the obstacle is causing the air leak.

19. What is the first thing a mechanic should do when a tire is brought in to be repaired:

a. fill the customer's car with gas.
b. make a work order.
c. try to sell the customer a new tire.
d. rotate the tires on his car.

37.12.03.03 (continued)

20. It is not necessary to remove the tire from the rim when repairing it if you use a:

    a. liquid repair kit.
    b. boot repair kit.
    c. patch repair kit.
    d. plug repair kit.

37.12.04.01

21. To adjust the door, you would:

    a. loosen the door hinge fasteners.
    b. loosen the door jamb.
    c. use a press jack to spring the door to its original position.
    d. use a pry bar to adjust the door.

22. You would determine whether the door needs adjusting or if it is the door jamb that needs adjusting by looking at the:

    a. wear marks on the inside of a door.
    b. combined door edges.
    c. door jamb while opening and closing the door.
    d. top of the door.

23. When adjusting a door and determining in which direction the door is out of line, a mechanic would:

    a. examine the top of the door.
    b. examine all of the door edges.
    c. open the door and look for wear marks on the door.
    d. look at the door latch to determine out of alignment.

37.12.04.02

24. Hood (closed) height at the front of a hood is adjusted by:

    a. the hood latch.
    b. adjusting the rear hood adjustments.
    c. a coil spring.
    d. bending the front of the hood.

37.12.04.03

25. When there is play in the trunk lock system when the trunk is closed, you can adjust it by:

    a. the coil spring.
    b. the hood latch.
    c. bending the trunk latch up just a little at a time until you have it adjusted.
    d. the deck lid latch.

UNIT TEST ANSWER SHEET

Occupational Ares: Automotive
File Code: 37.12
Name:
Family Pay Number: Sex: M F (Circle 1)

ANSWERS

0101	1.	D	0401	21.	A	41.	
	2.	D		22.	C	42.	
	3.	A		23.	B	43.	
0102	4.	D	0402	24.	A	44.	
	5.	C	0403	25.	D	45.	
0201	6.	B		26.		46.	
	7.	D		27.		47.	
0202	8.	B		28.		48.	
	9.	A		29.		49.	
	10.	A		30.		50.	
0301	11.	C		31.		51.	
	12.	A		32.		52.	
	13.	B		33.		53.	
	14.	C		34.		54.	
	15.	C		35.		55.	
0302	16.	A		36.		56.	
	17.	B		37.		57.	
0303	18.	C		38.		58.	
	19.	B		39.		59.	
	20.	D		40.		60.	

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Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Experience Guide

UNIT: OIL CHANGING

RATIONALE:

The techniques and procedures in this unit will enable you to change oil and oil filter.

PREREQUISITES:

None

OBJECTIVE:

Use the proper procedures for changing oil and oil filters.

RESOURCES:

Printed Material

Auto Service and Repair. Stockel, Goodheart-Willcox, Inc., 1969.

Equipment

Automobile needing oil changing
Drain pan
Fender covers
Jacks or lift
Jack stands
Lubrication sticker
Oil
Oil drain dispenser
Oil filter
Oil filter wrench
Tools, Basic Hand: Chisel and Punch Set
5/32" Pin Punch
3/16" Solid
Gauge, feeler (.002" - .025")
Hammer, ball peen
Hammer, plastic tip
Handle, speed
Hex Key Set
Pliers, diagonal cutting
Pliers, needle nose

Principal Author(s): C. Schramm/W. Osland

RESOURCES (Cont.)

Scraper, gasket
Screwdriver, standard (set)
Screwdriver, Phillips (set)
Screw starter
Socket Set (3/8" drive)
  extension (3")
  ratchet
Socket Set (1/4" drive)
  extension (3")
  handle (6" flex)
  ratchet
Socket, spark plug
  extension (6")
Wrench, combination (set)
Wrench, combination ignition (set)
Windshield cleaner

GENERAL INSTRUCTIONS:

This unit consists of two Learning Activity Packages (LAPs). Each LAP will provide specific information for completion of a learning activity.

The general procedure for this unit is as follows:

(1) Read the first assigned Learning Activity Package (LAP).
(2) Begin and complete the first assigned LAP.
(3) Complete all required LAPs for the Unit.
(4) In this Unit, the LAP and Unit tests are combined. This combined test is taken after completing the last LAP in the Unit.
(5) Take the Unit/LAP test as described in the Unit LEG "Evaluation Procedures".
(6) Proceed to the next assigned unit.

PERFORMANCE ACTIVITIES:

.01 Changing Oil
.02 Changing Oil Filter

EVALUATION PROCEDURE:

When pretesting:

1. The student takes the unit multiple-choice pretest.
2. Successful completion is 4 out of 5 items for each LAP part of the pretest.
3. The student then takes a unit performance test if the unit pretest was successfully completed.
4. Satisfactory completion of the performance test is meeting the criteria listed on the performance test.

When post testing:

1. The student takes a multiple-choice unit post test and a unit performance test.
2. Successful unit completion is meeting the listed criteria for the performance test.

100% accuracy on the unit performance test and 100% accuracy on the unit post test.

FOLLOW-THROUGH:

Go to the first assigned Learning Activity Package (LAP) listed on your Student Progress Record (SPR).

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Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Changing Oil

OBJECTIVE:

Use the correct procedure when changing the engine oil in an automobile.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test to be taken after LAP 37.12.01.02.

RESOURCES:

Automobile needing an oil change
Drain pan or oil drain dispenser
Exhaust hoses
Fender covers
Hoist or jack and jack stands
Oil
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. Run engine until oil is hot. (Place exhaust hoses on the car if inside a building.)
2. Raise car on hoist or with a floor jack. CAUTION: Follow hoist and jack stand safety rules.
3. Place oil drain pan or dispenser under drain plug of vehicle.
4. Remove oil drain plug. CAUTION: Be careful of hot oil.
   NOTE: Do not drop plug into drain pan.
5. Allow oil to drain until all oil is out.
6. Replace drain plug. CAUTION: Do not overtighten plug.
   NOTE: If filter is to be changed, refer to LAP sheet number 37.12.01.02.
7. Lower car to floor.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

8. Open the hood and place fender covers on the car.
9. Install the new oil. Refer to specifications for amount, type and grade of oil to be used.
10. Check oil level on dipstick.
    NOTE: Dipstick should read full.
11. Start engine and check for oil pressure.
    NOTE: If no pressure, stop engine and check with the instructor.
12. Turn the engine off.
13. Raise the car and check drain plug for leaks.
    NOTE: If plug leaks, check with the instructor.
14. Lower car to floor. Check dipstick to be sure oil level is correct.
15. Record mileage on vehicle lubrication sticker.
16. Clean up work area. Place empty oil cans in designated trash container.
17. Contact the instructor for his evaluation of the completed work.
18. Proceed to the next LAP.

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Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Changing Oil Filter

OBJECTIVE:

Use correct procedure when changing the oil filter in an automobile.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test.

RESOURCES:

Automobile (needing an oil filter change)
Oil Filter Wrench
Tools, Basic Hand: (See Unit LEG)
Replacement Oil Filter
1 Quart Additional Oil

PROCEDURE:

Steps

1. Raise the vehicle to remove the oil filter if mounted beneath the engine.
2. Open the hood, cover the fenders with covers. Remove the filter if mounted on the top side.
3. Allow the filter oil to drain into a dispenser or an oil pan.
4. Install new filter.
5. Start engine and check all around filter for leaks.
6. Stop engine and check oil level on dipstick. If low, add one quart of oil to the crankcase. (This allowance is for the capacity of the filter and must be added to the engine oil whenever a filter cartridge is renewed.) Do not put oil in the filter case.
7. Deposit used filter in trash and clean up work area.
8. Take and score the Unit/LAP post test.

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37.12.01.00.B1-2
37.12.01.01.B1-2
37.12.01.02.B1-2

UNIT/LAP PRE/POST TEST ANSWER KEY: OIL CHANGING *A*

LAP..01

1. d
2. d
3. d
4. d
5. b

LAP .02

6. a
7. c
8. d
9. [redacted]
10. [redacted]

37.12.01.00.B1-2
37.12.01.01.B1-2
37.12.01.02.B1-2

UNIT/LAP PRE/POST TEST ANSWER KEY: OIL CHANGING

LAP .01

1. d
2. d
3. d
4. d
5. b

LAP .02

6. a
7. c
8. d
9. ~~d~~
10. ~~c~~

37.12.01.02 cont.

7. When you have changed the oil in an engine, what should you do prior to starting engine?

   a. check the valve tappets.
   b. check for oil leaks.
   c. check oil level.
   d. check the oil pump.

8. Generally, a vehicle will hold how much more oil when you change the oil filter at the same time you change the oil?

   a. two quarts.
   b. one pint.
   c. three pints.
   d. one quart.

9.

10.

Standard: _____ File Code: _____

Date: _____ Date Published: 6/7/77

UNIT/LAP POST TEST: OIL CHANGING (B)

37.12.01.01

1. What do you do after changing an oil filter and adding new oil?

   a. check for oil passage
   b. check for leaks
   c. check for air lock
   d. check for water level

2. What may happen if excessive pressure is put on the seal of an oil filter?

   a. it may cause an air block and oil will not flow
   b. the filter may come loose from vibration
   c. a hole may vibrate in the filter if the seal is distorted
   d. it may cause a leak

3. How much do you turn a spin-on oil filter after you have engaged the base of the engine?

   a. full turn
   b. quarter of a turn
   c. 2 full turns
   d. half a turn to 3/4 of a turn

4. After you have wiped the engine base clean, what do you do with the filter when you are about to install it?

   a. sand the seal ring so there aren't any rough edges
   b. rub a little grease on the seal ring
   c. put a little permatex on the seal ring
   d. rub a thin layer of oil on the seal ring

5. What kind of wrench do you use to remove a spin-on type of oil filter?

   a. a chain wrench
   b. a crescent wrench
   c. a pipe wrench
   d. a special band wrench

37.12.01.02

6. Generally, a vehicle will hold how much more oil when you change the oil filter at the same time you change the oil?

   a. two quarts
   b. one pint
   c. three pints
   d. one quart

7. When you have changed the oil in an engine, what should you do prior to starting engine?

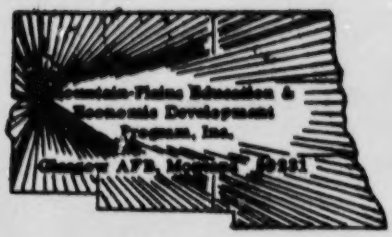
   a. check the valve tappets
   b. check for oil leaks
   c. check oil level
   d. check the oil pump

8. When changing oil, at what temperature should the engine oil be?

   a. normal engine operating conditions
   b. cold engine operating conditions
   c. hot engine operating conditions
   d. it doesn't matter what temperature the engine oil is

UNIT/LAP PRE/POST TEST ANSWER KEY: OIL CHANGING (B)

1. B
2. D
3. D
4. D
5. D
6. D
7. C
8. A



UNIT/LAP PRE/POST TEST: OIL CHANGING (C)

37.12.01.01

1. What kind of wrench do you use to remove a spin-on type of oil filter?

   a. a chain wrench
   b. a crescent wrench
   c. a pipe wrench
   d. a special band wrench

2. How much do you turn a spin-on oil filter after you have engaged the base of the engine?

   a. full turn
   b. quarter of a turn
   c. 2 full turns
   d. half a turn to 3/4 of a turn

3. What do you do after changing an oil filter and adding new oil?

   a. check for oil passage
   b. check for leaks
   c. check for air lock
   d. check for water level

4. What may happen if excessive pressure is put on the seal of an oil filter?

   a. it may cause an air block and oil will not flow
   b. the filter may come loose from vibration
   c. a hole may vibrate in the filter if the seal is distorted
   d. it may cause a leak

5. After you have wiped the engine base clean, what do you do with the filter when you are about to install it?

   a. sand the seal ring so there aren't any rough edges
   b. rub a little grease on the seal ring
   c. put a little permatex on the seal ring
   d. rub a thin layer of oil on the seal ring

37.12.01.02

6. When you have changed the oil in an engine, what should you do prior to starting engine?

   a. check the valve tappets
   b. check for oil leaks
   c. check oil level
   d. check the oil pump

7. Generally, a vehicle will hold how much more oil when you change the filter at the same time you change the oil?

   a. two quarts
   b. one pint
   c. three pints
   d. one quart

8. When changing oil, at what temperature should the engine oil be?

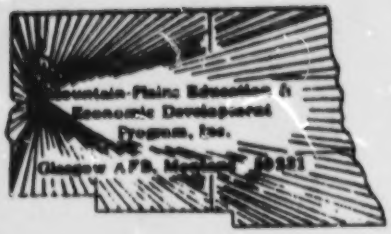
   a. normal engine operating conditions
   b. cold engine operating conditions
   c. hot engine operating conditions
   d. it doesn't matter what temperature the engine oil is

UNIT/LAP PRE/POST TEST ANSWER KEY: OIL CHANGING (C)

1. D
2. D
3. B
4. D
5. D
6. C
7. D
8. A

Student: _____ File Code: 37.12.01.00.B1-5

Date: _____ Date Published: 3/4/76



Family Pay Number: _____ Sex: M F (Circle 1)

UNIT PERFORMANCE TEST: DETAILING AND SERVICING

OBJECTIVE:

Detail and service a vehicle.

TASK:

The student will be assigned a vehicle on which he must change oil and filter, clean windshield, check water in battery and radiator, check air filter, vacuum interior, check all belts, check power steering fluid, and lubricate door hinges.

ASSIGNMENT:

CONDITIONS:

The student will use only those materials provided for the test and perform the test in the auto shop.

RESOURCES:

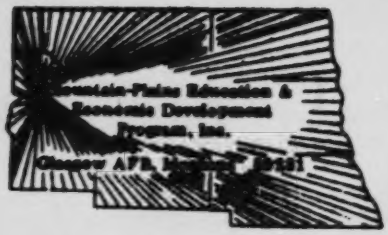
Windshield cleaner
Lubrication sticker
Oil
Oil filter
Service manual
Time and parts manual
Oil filter wrench
Drain pan
Fender covers
Jack
Jack stands

RESOURCES: (Continued)

Combination Ignition wrench set
Combination Wrench Set
Standard Screwdriver Set
Phillips Screwdriver Set
Feeler gauge - .002 through .025 inch
Hex Key Set
Diagonal Cutting Pliers
Needle Nose Plier
1/4" Drive Socket Set
Ratchet - 3" and 6" extensions - 6" flex handle
Ball Peen hammer
Plastic Tip Hammer
Screw Starter
Chisel and Punch Set
5/32" Pin Punch - 3/16" Solid
Gasket scraper
3/8" Drive Ratchet
3" Extension
Spark Plug Socket
6" Extension
Speed Handle
3/8" Drive Socket Set

Student: _____ File Code: 37.12.01.00.B1-5

Date: _____ Date Published: 3/4/76



Family Pay Number: _____ Sex: M F (Circle 1)

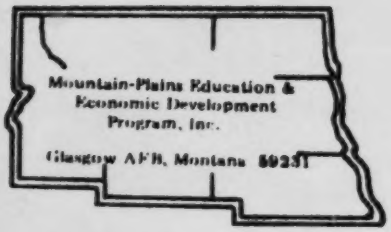
PERFORMANCE CHECKLIST:

OVERALL PERFORMANCE: Satisfactory_____ Unsatisfactory_____

	CRITERION Met	Not Met
Objective:		
1. Change oil and filter.		
Criterion: Read full on dip stick, no leaks on drain plug		
or filter.		
2. Clean windshield and interior.		
Criterion: Be clean for instructor inspection.		
3. Inspect under hood.		
Criterion: Note any problems on work order; have belts		
tight.		
4. Complete test in allotted time.		
Criterion: Complete in one hour.		
Student must satisfactorily complete 3 of 4 line items to		
pass test.		

File Code: 37.12.02.00.B1-1

Date Published: 3/4/76



Learning Experience Guide

UNIT: CHASSIS LUBRICATION

RATIONALE:

The techniques and procedures in this unit will enable you to lubricate chassis.

PREREQUISITES:

None

OBJECTIVE:

Use the correct procedure for lubricating the automobile chassis.

RESOURCES:

Printed Material

Auto Service and Repair, Martin W. Stockel, Goodheart-Willcox Company, Inc.

Equipment

Automobile needing lubrication job
Chassis lubricant
Jack or lift
Jack stands
Lubrication sticker
Tools, Basic Hand:
- Chisel and Punch Set
  - 5/32" Pin Punch
  - 3/16" Solid
- Gauge, feeler (.002" - .025")
- Hammer, ball peen
- Hammer, plastic tip
- Handle, speed
- Hex Key Set
- Pliers, diagonal cutting
- Pliers, needle nose

Principal Author(s): C. Schramm/W. Osland

Resources: Equipment Continued

Scraper, gasket
Screwdriver, standard (Set)
Screwdriver, phillips (Set)
Screw starter

Socket Set (3/8" drive)
  extension (3")
  ratchet

Socket Set (1/4" drive)
  extension (3")
  handle (6" flex)
  ratchet

Socket, spark plug
  extension (6")

Wrench, combination (Set)
Wrench, combination ignition (Set)

GENERAL INSTRUCTIONS:

This unit consists of two Learning Activity Packages (LAPs). Each LAP will provide specific information for completion of a learning activity.

The general procedure for this unit is as follows:

(1) Read the first assigned Learning Activity Package (LAP)
(2) Begin and complete the first assigned LAP.
(3) Complete all required LAPs for the Unit.
(4) In this unit, the LAP and Unit tests are combined. This combined test is taken after completing the last LAP in the unit.
(5) Take the Unit/LAP test as described in the Unit LEG "Evaluation Procedures".
(6) Proceed to the next assigned unit.

PERFORMANCE ACTIVITIES:

.01 Chassis Tube (Zerks)
.02 Chassis Tube (Plugs)

EVALUATION PROCEDURE:

When pretesting:

1. The student takes the unit multiple-choice pretest.
2. Successful completion is 4 out of 5 items for each LAP part of the pretest.
3. The student then takes a unit performance test if the unit pretest was successfully completed.
4. Satisfactory completion of the performance test is meeting the criteria listed on the performance test.

When post testing:

1. The student takes a multiple-choice unit post test and a unit performance test.
2. Successful unit completion is meeting the listed criteria for the performance test.

FOLLOW-THROUGH:

Go to the first assigned Learning Activity Package (LAP) listed on your Student Progress Record (SPR).

File Code: 37.12.02.01.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Chassis Lube (Zerks)

OBJECTIVE:

Use correct procedure when lubricating a chassis with Zerks.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test to be taken after LAP 37.12.02.02.

RESOURCES:

Automobile needing a lubrication job
Chassis lubricant dispensers
Fender covers
Grease
Hoist or jack and jack stands
Lubrication Manual
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. Raise the vehicle on the hoist.
2. Consult lubrication chart (manual; owner's manual; etc.) for that particular vehicle's location and number of grease fittings.
3. Wipe all grease fittings clean.
4. Place lube gun on each fitting and apply pressure. Continue pressure until grease can be seen or until you can see that the joint is filled.
   NOTE: Sealed joints should not be filled until grease can be seen, as this would break the seal.
5. Lube all rubber joints and moving grommets with rubber lube only. Do not use oil or grease on rubber. (It will cause deterioration of rubber parts.)
6. Remove differential plug and check lube level.
   NOTE: Lube should be up to the filter plug hole. Add gear lube if needed.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

7. Check lube level of standard transmission following the manufacturer's recommended procedure for standard transmission.
8. Lube emergency brake linkage and cable with a thin oil.
9. Lower the car and raise hood. Install fender covers.
10. Lube the generator, starter and distributor oil cups if so equipped as on older models.
11. Check the power steering fluid level and add if necessary.
12. Check coolant level and add if necessary.
13. Check engine oil level and add if necessary.
14. Lube door latches, hood releases and trunk latch with a heavy lubricant.
15. Check brake fluid level and add if necessary to obtain the proper level.
16. Remove the fender covers and close the hood.
17. Record mileage and put the date work done on the record sticker and place on the door post.
18. Ask the instructor to evaluate your work.
19. Go on to the next LAP.

File Code: 37.12.02.02.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Chassis Lube (Plugs)

OBJECTIVE:

Use the correct procedure for removing plugs and lubricating a chassis of an automobile.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test.

RESOURCES:

Service Manual

Automobile needing a chassis lubrication
Grease
Hoist or jack stands or jacks
Lubrication equipment
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. Raise the vehicle.
   NOTE: If vehicle is not available, raise vehicle with jack and properly secure it with safety stands.
2. Locate and remove all grease plugs.
   NOTE: Refer to service manual for chart designating all grease plugs.
3. Lubricate each location designated on the lube chart.
   NOTE: It is best to always refer to the lubrication chart when a vehicle is being serviced. This will prevent the possibility of missing some hidden lubrication location.
4. Reinstall the grease plugs and wipe-off any excess grease.
5. When completed, ask the instructor to evaluate your completed work.
6. Lower the vehicle.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

7. Clean and return all tools and equipment.
8. Clean the work area.
9. Take and score the Unit/LAP post test.

Student: _____ File Code: _____

Date: _____ Date Published: 11/28/77

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

UNIT/LAP PRE/POST TEST: CHASSIS LUBRICATION

37.12.02.01

1. Grease zerks are used where?

   a. where there are only roller bearings.
   b. in immovable parts.
   c. where there is a ball bearing or roller bearing.
   d. in movable parts.

2. In a typical suspension system, the rubber bushing arm pivots:

   a. require a special lubricant compatible with rubber.
   b. are lubricated for life at the factory.
   c. allow suspension movement by twisting the rubber.
   d. allow suspension movement by permitting the shaft or bolt to turn in the rubber.

3. A manual steering gear is usually lubricated with:

   a. Dexron 11 fluid.
   b. chassis lube.
   c. motor oil.
   d. SAE 90 gear oil.

4. Of the following, which is the most important factor in getting maximum life from a ball joint:

   a. keeping speed under 55 mph.
   b. using the correct brand of grease.
   c. keeping the seal or boot in good condition.
   d. filling the ball joint with grease until the seal has "ballooned."

5. Polyethylene lined ball joints are:

   a. lubricated with rubber lube.
   b. not lubricated.
   c. disassembled for lubrication at specified intervals.
   d. lubricated with regular chassis grease at specified intervals.

37.12.02.02

6. Ball joints and tie rod ends that have plugs screwed into the lubricating hole:

   a. should be lubricated by removing the plug and lubricating with a hand operated rubber tipped grease gun.
   b. must not be lubricated.
   c. can only be lubricated by replacing the plug with a zerk and using a high-pressure air-operated grease gun.
   d. are lubricated at the factory for life.

37.12.02.02 cont.

7. Why is it a bad policy to pump grease into a fitting in a sealed bearing until the grease comes out?

   a. you may get the joint too sloppy in movement when you over grease.
   b. it will get on the under carriage of the car.
   c. the customer will think you do sloppy work.
   d. breaks the seal.

8. Most conventional differentials are lubricated with:

   a. Dexron 11 gear lube.
   b. multi-purpose gear lubricant.
   c. multi-purpose chassis lubricant.
   d. motor oil or mineral gear oil SAE 90.

9. When servicing front wheel bearings:

   a. add fresh grease to the existing grease.
   b. clean and repack with multi-purpose gear lubricant.
   c. clean and repack with a No. 2 multi-purpose grease meeting the car makers specifications.
   d. it is important that the hub and dust cap be filled with grease.

10. When packing front wheel bearings, the wheel spindle should be lightly coated with grease to:

   a. make it easier to remove the bearings.
   b. keep moisture from condensing in the bearings.
   c. allow the inner cones to creep on the spindle.
   d. make the bearings run quieter.

Student: _____ File Code: 37.12.02.02. B1-2

Date: _____ Date Published: 11/28/77

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

UNIT/LAP PRE/POST TEST: CHASSIS LUBRICATION

37.12.02.01

1. Polyethylene lined ball joints are:

   a. lubricated with rubber lube.
   b. not lubricated.
   c. disassembled for lubrication at specified intervals.
   d. lubricated with regular chassis grease at specified intervals.

2. Of the following, which is the most important factor in getting maximum life from a ball joint:

   a. keeping speed under 55 mph.
   b. using the correct brand of grease.
   c. keeping the seal or boot in good condition.
   d. filling the ball joint with grease until the seal has "ballooned."

3. A manual steering gear is usually lubricated with:

   a. Dexron II fluid.
   b. chassis lube.
   c. motor oil.
   d. SAE 90 gear oil.

4. In a typical suspension system, the rubber bushing arm pivots:

   a. require a special lubricant compatible with rubber.
   b. are lubricated for life at the factory.
   c. allow suspension movement by twisting the rubber.
   d. allow suspension movement by permitting the shaft or bolt to turn in the rubber.

5. Grease zerks are used where:

   a. where there are only roller bearings.
   b. in immovable parts.
   c. where there is a ball bearing or roller bearing.
   d. in movable parts.

37.12.02.02

6. When packing front wheel bearings, the wheel spindle should be lightly coated with grease to:

   a. make it easier to remove the bearings.
   b. keep moisture from condensing in the bearings.
   c. allow the inner cones to creep on the spindle.
   d. make the bearings run quieter.

37.12.02.02 cont.

7. When servicing front wheel bearings:

   a. add fresh grease to the existing grease.
   b. clean and repack with multi-purpose gear lubricant.
   c. clean and repack with a No. 2 multi-purpose grease meeting the car makers specifications.
   d. it is important that the hub and dust cap be filled with grease.

8. Most conventional differentials are lubricated with:

   a. Dexron 11 gear lube.
   b. multi-purpose gear lubricant.
   c. multi-purpose chassis lubricant.
   d. motor oil or mineral gear oil SAE 90.

9. Why is it a bad policy to pump grease into a fitting in a sealed bearing until grease comes out?

   a. you may get the joint too sloppy in movement when you over grease.
   b. it will get on the under carriage of the car.
   c. the customer will think you do sloppy work.
   d. breaks the seal.

10. Ball joints and tie rod ends that have plugs screwed into the lubricating hole:

   a. should be lubricated by removing the plug and lubricating with a hand-operated rubber tipped grease gun.
   b. must not be lubricated.
   c. can only be lubricated by replacing the plug with a zerk and using a high pressure air-operated grease gun.
   d. are lubricated at the factory for life.

UNIT/LAP PRE/POST TEST ANSWER KEY: CHASSIS LUBRICATION (B)

37.12.02.01

1. B
2. C
3. D
4. C
5. D

37.12.02.02

6. C
7. C
8. B
9. D
10. A

Student: _____ File Code: 37.12.02.02. B1-2

Date: _____ Date Published: 11/28/77

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

UNIT/LAP PRE/POST TEST: CHASSIS LUBRICATION

37.12.02.01

1. A manual steering gear is usually lubricated with:

   a. Dexron 11 fluid.
   b. chassis lube.
   c. motor oil.
   d. SAE 90 gear oil.

2. Grease zerks are used where:

   a. where there are only roller bearings.
   b. in immovable parts.
   c. where there is a ball bearing or roller bearing.
   d. in movable parts.

3. In a typical suspension system, the rubber bushing arm pivots:

   a. require a special lubricant compatible with rubber.
   b. are lubricated for life at the factory.
   c. allow suspension movement by twisting the rubber.
   d. allow suspension movement by permitting the shaft or bolt to turn in the rubber.

4. Polyethylene lined ball joints are:

   a. lubricated with rubber lube.
   b. not lubricated.
   c. disassembled for lubrication at specified intervals.
   d. lubricated with regular chassis grease at specified intervals.

5. Of the following, which is the most important factor in getting maximum life from a ball joint:

   a. keeping speed under 55 mph.
   b. using the correct brand of grease.
   c. keeping the seal or boot in good condition.
   d. filling the ball joint with grease until the seal has "ballooned."

37.12.02.02

6. Most conventional differentials are lubricated with:

   a. Dexron 11 gear lube.
   b. multi-purpose gear lubricant.
   c. multi-purpose chassis lubricant.
   d. motor oil or mineral gear oil SAE 90.

37.12.02.02 cont.

7. When packing front wheel bearings, the wheel spindle should be lightly coated with grease to:

   a. make it easier to remove the bearings.
   b. keep moisture from condensing in the bearings.
   c. allow the inner cones to creep on the spindle.
   d. make the bearings run quieter.

8. Ball joints and tie rod ends that have plugs screwed into the lubricating hole:

   a. should be lubricated by removing the plug and lubricating with a hand-operated rubber tipped grease gun.
   b. must not be lubricated.
   c. can only be lubricated by replacing the plug with a zerk and using a high pressure air-operated grease gun.
   d. are lubricated at the factory for life.

9. Why is it a bad policy to pump grease into a fitting in a sealed bearing until grease comes out?

   a. you may get the joint too sloppy in movement when you over grease.
   b. it will get on the under carriage of the car.
   c. the customer will think you do sloppy work.
   d. breaks the seal.

10. When servicing front wheel bearings:

   a. add fresh grease to the existing grease.
   b. clean and repack with multi-purpose gear lubricant.
   c. clean and repack with a No. 2 multi-purpose grease meeting the car makers specifications.
   d. it is important that the hub and dust cap be filled with grease.

UNIT/LAP PRE/POST TEST ANSWER KEY: CHASSIS LUBRICATION (C)

37.12.02.01

1. D
2. D
3. C
4. B
5. C

37.12.02.02

6. B
7. C
8. A
9. D
10 C

Student: _____ File Code: 37.12.02.00.B1-5

Date: _____ Date Published: 3/4/76

Family Pay Number: _____ Sex: M F (Circle 1)

UNIT PERFORMANCE TEST: CHASSIS LUBRICATION

OBJECTIVE:

Lubricate vehicle chassis.

TASK:

The student will be assigned a vehicle on which he must perform a chassis lube.

ASSIGNMENT:

CONDITIONS:

The student may use only those materials provided for the test and complete the test in the auto shop.

RESOURCES:

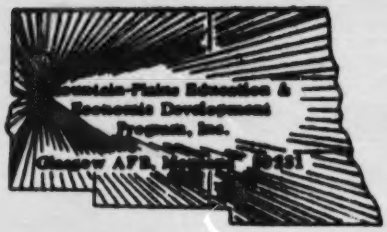
Chassis lubricant
Lubrication sticker
Jacks
Jack stands
Auto needing lube job

RESOURCES: (Continued)

Combination Ignition wrench set
Combination Wrench Set
Standard Screwdriver Set
Phillips Screwdriver Set
Feeler gauge - .002 through .025 inch
Hex Key Set
Diagonal Cutting Pliers
Needle Nose Plier
1/4" Drive Socket Set
Ratchet - 3" and 6" extensions - 6" flex handle
Ball Peen hammer
Plastic Tip Hammer
Screw Starter
Chisel and Punch Set
5/32" Pin Punch - 3/16" Solid
Gasket scraper
3/8" Drive Ratchet
3" Extension
Spark Plug Socket
6" Extension
Speed Handle
3/8" Drive Socket Set

Student: _____ File Code: 37.12.02.00.81-5

Date _____ Date Published: 3/4/76



Family Pay Number: _____ Sex: M F (Circle 1)

PERFORMANCE CHECKLIST:

OVERALL PERFORMANCE: Satisfactory_____ Unsatisfactory_____

	CRITERION Met	Not Met
Objective:		
1. Lubricate vehicle.		
Criterion: Must lubricate all points listed in service manual.		
2. Check lubrication in differential and transmission.		
Criterion: Must be full to specifications of manufacturer.		
3. Complete task in allotted time.		
Criterion: One hour time limit.		
Student must satisfactorily complete all line items to pass test.		

File Code: 37.12.03.00.B1-1

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Experience Guide

UNIT: TIRES

RATIONALE:

The techniques and procedures in this unit will enable you to change, rotate, and repair tires.

PREREQUISITES:

None

OBJECTIVE:

Use the correct procedure to change, rotate, and repair tires.

RESOURCES:

Printed Material

Auto Service and Repair. Martin W. Stockel, Goodheart-Willcox Company, Inc.

Audio/Visuals

DCA Educational Products Inc.

Auto Mechanics Tire Changing (FAA 012).
Nomenclature and Remounting
Auto Mechanics Tire Changing (FAA 022)
Mounting and Leakage Tests

Equipment

Air pressure gauge
Automobile needing tires changed & rotated
Buffer
Clean cloth
Compressed air
Jack & jackstand or lift
Patch (tire)
Rubber cleaner
Rubber lubricant
Tire change machine
Tire with leak
Tire patch glue

Principal Author(s): C. Schramm/W. Osland

RESOURCES (Cont.)

Tire patch roller
Projector
Water tub and water
Wire brush

GENERAL INSTRUCTIONS:

This Unit consists of three Learning Activity Packages (LAPs). Each LAP will provide specific information for completion of a learning activity.

The general procedure for this Unit is as follows:

(1) Read the first assigned Learning Activity Package (LAP).
(2) Begin and complete the first assigned LAP.
(3) Complete all required LAPs for the Unit.
(4) In this Unit, the LAP and Unit tests are combined. This combined test is taken after completing the last LAP in the Unit.
(5) Take the Unit/LAP test as described in the Unit LEG "Evaluation Procedures".
(6) Proceed to the next assigned unit.

PERFORMANCE ACTIVITIES:

.01 Changing Tires
.02 Rotating Tires
.03 Repairing Tires

EVALUATION PROCEDURE:

When pretesting:

1. The student takes the unit multiple-choice pretest.
2. Successful completion is 4 out of 5 items for each LAP part of the pretest.
3. The student then takes a unit performance test if the unit pretest was successfully completed.
4. Satisfactory completion of the performance test is meeting the criteria listed on the performance test.

When post testing:

1. The student takes a multiple-choice unit post test and a unit performance test.
2. Successful unit completion is meeting the listed criteria for the performance test.

FOLLOW-THROUGH:

Go to the first assigned Learning Activity Package (LAP) listed on your Student Progress Record (SPR).

37.12.03.00.B1-2
37.12.03.01.B1-2
37.12.03.02.B1-2
37.02.03.03.B1-2

UNIT/LAP PRETEST ANSWER KEY: TIRES (CHANGING, ROTATING, REPAIRING)

LAP .01

1. d
2. a
3. c
4. a
5. b

LAP .02

6. b
7. c
8. a
9. a
10. D

LAP .03

11. c
12. a
13. c
14. a
15. b

File Code: 37.12.03.01.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Changing Tires

OBJECTIVE:

Use the correct procedures for changing tires.

EVALUATION PROCEDURE:

80% correct on the Unit/LAP test.

RESOURCES:

Filmstrip: Nomenclature and Remounting--FAA012.

Compressed air
Tire
Tire assembly (to be changed)
Tire changing equipment
Rubber lubricant
Wire brush

PROCEDURE:

1. Mount the wheel assembly on the tire machine with the proper demountable side of the rim up and locked in place.
2. Operate the foot level to break the bottom side tire bead away from the rim.
3. Align the top mechanism on the tire bead and apply pressure to break the tire bead with down pressure. (Return bead-broken equipment to the normal position.)
4. Apply rubber lubricant to the tire beads to ease the task of tire removal.
5. Insert the tire removal tool into place between the tire bead and rim, and carefully remove the top bead from the rim. Then place the tool again into the bottom half of the tire and remove the complete tire.
6. With a hand wire brush, clean the bead port of the rims and at the same time examine the rim for any damage.
7. Wipe rubber lubricant on the beads of the tire to be installed and position over the rim.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

8. Place the installation end of the tire tool onto the rim and carefully work the tool around, pulling the tire bead over the rim.
9. Apply air to the valve stem and fill the tire to the recommended tire pressure. Use a tire-pressure gauge to measure the pressure. WARNING: Do not over-inflate the tire.
   NOTE: Be sure to loosen the rim lock-down before putting air in the tire.
10. Remove the lock-down device and properly replace all the equipment used. Clean up the work area.
11. Ask the instructor to check the tire for approval and evaluation.
12. Proceed to the next LAP.

File Code: 37.12.03.02.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Rotating Tires

OBJECTIVE:

Use the correct procedure to rotate the tires on an automobile and make proper adjustments.

EVALUATION PROCEDURE:

80% correct on the Unit/LAP test.

RESOURCES:

Owner's or Service Manual.

Automobile needing tires rotated
Air pressure gauge
Jack and jack stands

PROCEDURE:

1. Raise the vehicle and secure jack stands.
2. Examine the tires to determine brand and design. Record this information on a work order.
   NOTE: Some tires can only be rotated in one manner. Mud and snow tires can only rotate one direction in order to extend the life of the tire. Radials can only be rotated so that the tire continues to roll in the same direction. Check the tire manufacturer's and the vehicle manufacturer's specifications.
3. Record on the work order the recommended rotation pattern.
4. Rotate the tires.
5. When completed, ask the instructor to evaluate your work.
6. Lower the vehicle.
7. Check the air pressure of the tire. Refer to the manual for correct pressure.
8. Record the pressure of the tires on the work order.
9. Clean and return all tools and equipment.
10. Clean up your work area.
11. Proceed to the next LAP.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

File Code: 37.12.03.03.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Repairing Tires

OBJECTIVE:

Use proper procedure to repair tube and tubeless tires.

EVALUATION PROCEDURE:

80% correct on the Unit/LAP test.

RESOURCES:

Filmstrip: Mounting and Leakage Test--FAA022

Buffer
Clean cloth
Patch
Rubber cleaner
Tire with leak
Tire patch glue
Tire patch roller
Water tub with water

PROCEDURE:

1. Mark tire at valve steam and wheel weight positions to insure exact replacement and to maintain tire balance.
2. Locate leak area and mark clearly. NOTE: Tubeless Tires: Refill with air to recommended tire pressure and immerse in water to locate bubbles from escaping air.
   Tube Tires: Remove tube and fill with air. Immerse tube in water to locate bubbles from escaping air.
3. Position the repair area to make it easier to work on. NOTE: Tubeless tires: Spread tire beads open and brace with a tool to ease patch installation. NOTE: Position the area to be patched over on edge to gain proper access to patch area.
4. Clean and buff the patch area thoroughly with the buffer. Then clean the buffed area with the rubber liquid cleaner and a clean cloth. NOTE: Keep your hands clean during patch installation.

Principal Author(s): J. Anderson and C. Schramm

5. After the liquid cleaner has dried, apply a thin coating of tire patch glue, enough to cover the needed patch diameter. Let the "flash point" of the glue dry off so that the glue is "tacky".
6. Carefully remove adhesive covering from patch. Keep fingers from touching the adhesive side.
7. Carefully place patch over glue and work into place with the tire patch roller tool.
8. Cover the remaining glue with powder and remove the excess powder from the tire.
9. Reinstall: Tube—Refill tube with air and test with water to insure positive repair. Place the tube on the tire in its exact return position and check tire area of the tube patch for cause of the leak. Make necessary corrections.
10. After reinstallation test the complete tire with water to insure positive repair.
11. Ask the instructor to evaluate your work.
12. Clean and return all tools and equipment.
13. Clean work area.
14. Take and score the Unit/LAP post test.

37.12.03.00.C1-2
37.12.03.01.C1-2
37.12.03.02.C1-2
37.12.03.03.C1-2

UNIT/LAP POST TEST ANSWER KEY: TIRES (CHANGING, ROTATING, REPAIRING)

LAP .01

1. b
2. c
3. b
4. a
5. c

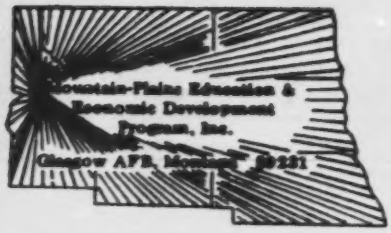
LAP .02

6. a
7. c
8. a
9. a
10. [redacted]

LAP .03

11. b
12. c
13. c
14. c
15. c

37.12.03.00.C1-2 37.12.03.01.C1-2
37.12.03.02.C1-2 (A)
Student: _____ File Code: 37.12.03.03.C1-2 _____
Date: _____ Date Published: 3/12/76



UNIT/LAP POST TEST: TIRES (CHANGING,ROTATING, REPAIRING) (A)

37.12.03.01

1. The bead area of a tire is the:

   a. outer edge on the face of a tire.
   b. sealing surface of a tire.
   c. inner edge on the face of a tire.
   d. the center area on the face of a tire.

2. When mounting a tubeless tire, to seat the beads you may have to:

   a. put your arms around the center of the tire and squeeze.
   b. bounce the tire.
   c. apply pressure to the center of the tire tread area.
   d. keep putting air into the tire until it seats.

3. When mounting a tire using an expander, the expander should be removed before how much pressure is applied to the tire?

   a. 20 lbs.
   b. 10 lbs.
   c. 30 lbs.
   d. 15 lbs.

4. What is one purpose of a tire lubricant when mounted on a rim?

   a. to insure a leak proof seal on the bead.
   b. to increase the traction of the tire.
   c. to insure tire balance.
   d. to increase added road mileage.

5. What piece of equipment should be used when the bead does not seat on the tire rim?

   a. two pry bars.
   b. tire cage.
   c. an expander.
   d. hydraulic tire breaker.

37.12.03.02

6. According to a ~~Goodyear~~ Cadillac chart, when rotating five tires, where does the left rear tire usually go?

   a. right front.
   b. left front.
   c. right rear.
   d. spare.

37.12.03.00.C1-2
37.12.03.01.C1-2
37.12.03.02.C1-2
37.12.03.03.C1-2

37.12.03.02 cont.

7. According to a ~~Goodyear~~ Cadillac chart, where does the right front tire usually go?

   a. left front.
   b. left rear.
   c. right rear.
   d. spare.

8. According to a ~~Goodyear~~ Cadillac chart, when rotating five tires, where does the left front tire go?

   a. left rear.
   b. spare.
   c. right front.
   d. right rear.

9. When rotating tires, a radial tire on the left rear would go:

   a. left front.
   b. right front.
   c. right rear.
   d. spare.

10. The positions of the tires should be rotated about every how many miles?

    a. 20,000.
    b. 10,000.
    c. 15,000.
    d. 5,000.

37.12.03.03

11. What is the first thing a mechanic should do when a tire is brought in to be repaired?

    a. fill the customer's car with gas.
    b. make a work order.
    c. try to sell the customer a new tire.
    d. rotate the tires on his car.

12. In case of a puncture or other leak in the tire, one of the first things you do when repairing the tire is to:

    a. break the bead on the tire.
    b. remove the tire from the rim.
    c. remove the nail or obstacle causing the leak.
    d. put a patch over the hole where the obstacle is causing the air leak.

13. If a mechanic receives a tire to be repaired but cannot find the hole in the tire by filling with air and listening, what can he do with it?

    a. take the tire off and check the inside of the tire.
    b. break the bead and inflate.
    c. immerse it in water.

37.12.03.03.cont.

14. Before you install a repair plug, you should:

    a. wash the tire.
    b. remove the tire.
    c. force cement into the tire hole.
    d. inflate the tire to 50 lbs. or more.

15. When choosing a plug for a hole in a tire, you would choose one that is:

    a. a little smaller than the hole.
    b. the same size as the tire hole.
    c. twice the size of the hole.
    d. a little larger than the tire hole.

Date: _____ Date Published: 6/6/77

UNIT/LAP POST TEST: TIRES (CHANGING, ROTATING, REPAIRING) (B)

37.12.03.01

1. What piece of equipment should be used when the bead does not seat on the tire rim?

   a. two pry bars
   b. tire cage
   c. an expander
   d. hydraulic tire breaker

2. What is one purpose of a tire lubricant when mounted on a rim?

   a. to insure a leak proof seal on the bead
   b. to increase the traction of the tire
   c. to insure tire balance
   d. to increase added road mileage

3. When mounting a tire using an expander, the expander should be removed before how much pressure is applied to the tire?

   a. 20 lbs
   b. 10 lbs
   c. 30 lbs
   d. 15 lbs

4. When mounting a tubless tire, to seat the beads you may have to:

   a. put your arms around the center of the tire and squeeze
   b. bounce the tire
   c. apply pressure to the center of the tire tread area
   d. keep putting air into the tire until it seats

5. The bead area of a tire is the:

   a. outer edge on the face of a tire
   b. sealing surface of a tire
   c. inner edge on the face of a tire
   d. the center area on the face of a tire

37.12.03.02

6. The positions of the tires should be rotated about every how many miles?

   a. 20,000
   b. 10,000
   c. 15,000
   d. 5,000

37.12.03.02 cont.

7. When rotating tires, a radial tire on the left rear would go:

   a. left front
   b. right front
   c. right rear
   d. spare

8. According to a Goodyear chart, when rotating five tires, where does the left front tire go?

   a. left rear
   b. spare
   c. right front
   d. right rear

9. According to a Goodyear chart, where does the right front tire usually go?

   a. left front
   b. left rear
   c. right rear
   d. spare

10. According to a Goodyear chart, when rotating five tires, where does the left rear tire usually go?

   a. right front
   b. left front
   c. right rear
   d. spare

37.12.03.03

11. When choosing a plug for a hole in a tire, you would choose one that is:

   a. a little smaller than the hole
   b. the same size as the tire hole
   c. twice the size of the hole
   d. a little larger than the tire hole

12. Before you install a repair plug, you should:

   a. wash the tire
   b. remove the tire
   c. force cement into the tire hole
   d. inflate the tire to 50 lbs. or more

37.12.03.03 cont.

13. If a mechanic receives a tire to be repaired but cannot find the hole in the tire by filling with air and listening, what can he do with it?

    a. take the tire off and check the inside of the tire
    b. break the bead and inflate
    c. immerse it in water
    d. take the tire off and check the tire and the rim for unsatisfactory seating

14. In case of a puncture or other leak in the tire, one of the first things you do when repairing the tire is to:

    a. break the bead on the tire
    b. remove the tire from the rim
    c. remove the nail or obstacle causing the leak
    d. put a patch over the hole where the obstacle is causing the air leak

15. What is the first thing a mechanic should do when a tire is brought in to be repaired?

    a. fill the customer's car with gas
    b. make a work order
    c. try to sell the customer a new tire
    d. rotate the tires on his car

UNIT/LAP POST TEST ANSWER KEY: TIRES (CHANGING, ROTATING, REPAIRING) (B)

1. C
2. A
3. B
4. C
5. B
6. D
7. A
8. A
9. C
10. A
11. C
12. C
13. C
14. C
15. B

Standard: _____ PRS Code: __

Date: _____ Date Published: 6/7/77

UNIT/LAP POST TEST: TIRES (CHANGING, ROTATING, REPAIRING) (C)

37.12.03.01

1. The bead area of a tire is the:

   a. outer edge on the face of a tire
   b. sealing surface of a tire
   c. inner edge on the face of a tire
   d. the center area on the face of a tire

2. What piece of equipment should be used when the bead does not seat on the tire rim?

   a. two pry bars
   b. tire cage
   c. an expander
   d. hydraulic tire breaker

3. When mounting a tubeless tire, to seat the beads you may have to:

   a. put your arms around the center of the tire and squeeze
   b. bounce the tire
   c. apply pressure to the center of the tire tread area
   d. keep putting air into the tire until it seats

4. What is one purpose of a tire lubricant when mounted on a rim?

   a. to insure a leak proof seal on the bead
   b. to increase the traction of the tire
   c. to insure tire balance
   d. to increase added road mileage

5. When mounting a tire using an expander, the expander should be removed before how much pressure is applied to the tire?

   a. 20 lbs.
   b. 10 lbs.
   c. 30 lbs.
   d. 15 lbs.

37.12.03.02

6. According to a Goodyear chart, when rotating five tires, where does the left rear tire usually go?

   a. right front
   b. left front
   c. right rear
   d. spare

37.12.03.02 cont.

7. When rotating tires, a radial tire on the left rear would go:

   a. left front
   b. right front
   c. right rear
   d. spare

8. According to a Goodyear chart, when rotating five tires, where does the left front tire go?

   a. left rear
   b. spare
   c. right front
   d. right rear

9. According to a Goodyear chart, where does the right front tire usually go?

   a. left front
   b. left rear
   c. right rear
   d. spare

10. The positions of the tires should be rotated about every how many miles?

   a. 20,000
   b. 10,000
   c. 15,000
   d. 5,000

37.12.03.03

11. If a mechanic receives a tire to be repaired but cannot find the hole in the tire by filling with air and listening, what can he do with it?

   a. take the tire off and check the inside of the tire
   b. break the bead and inflate
   c. immerse it in water
   d. take the tire off and check the tire and the rim for unsatisfactory seating

12. When choosing a plug for a hole in a tire, you would choose one that is:

   a. a little smaller than the hole
   b. the same size as the tire hole
   c. twice the size of the hole
   d. a little larger than the tire hole

37.12.03.03 cont.

13. Before you install a repair plug, you should:

    a. wash the tire
    b. remove the tire
    c. force cement into the tire hole
    d. inflate the tire to 50 lbs. or more

14. In case of a puncture or other leak in the tire, one of the first things you do when repairing the tire is to:

    a. break the bead on the tire
    b. remove the tire from the rim
    c. remove the nail or obstacle causing the leak
    d. put a patch over the hole where the obstacle is causing the air leak

15. What is the first thing a mechanic should do when a tire is brought in to be repaired?

    a. fill the customer's car with gas
    b. make a work order
    c. try to sell the customer a new tire
    d. rotate the tires on his car

UNIT/LAP POST TEST ANSWER KEY: TIRES (CHANGING, ROTATING, REPAIRING) (C)

1. B
2. C
3. C
4. A
5. B
6. A
7. A
8. A
9. C
10. D
11. C
12. C
13. C
14. C
15. B

Student: _____ File Code: 37.12.03.00,B1-5

Date: _____ Date Published: 3/4/76

Family Pay Number: _____ Sex: M F (Circle 1)

UNIT PERFORMANCE TEST: TIRES

OBJECTIVE:

Rotate and change tires.

TASK:

Student will be assigned a vehicle on which he must repair a tire and rotate tires.

ASSIGNMENT:

CONDITIONS:

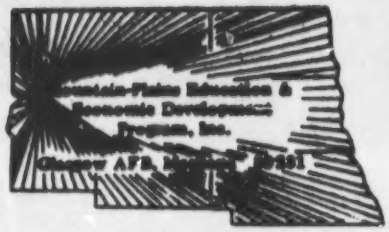
The student may use only those materials provided for the test and must complete the test in the auto shop.

RESOURCES:

Tire change machine
Tire repair equipment
Repair manual
Jack stands
Jack
Vehicle needing tire work

Student: _____ File Code: 37.12.03.00.81-5

Date: _____ Date Published: 3/4/76



Family Pay Number: _____ Sex: M F (Circle 1)

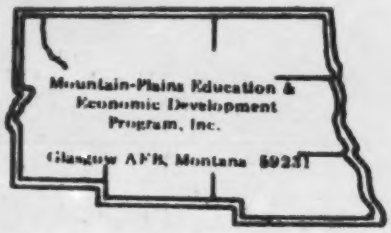
PERFORMANCE CHECKLIST:

OVERALL PERFORMANCE: Satisfactory_____ Unsatisfactory_____

	CRITERION Met	Not Met
Objective:		
1. Rotate tires.		
Criterion: Follow manufacturer's recommendations.		
2. Repair tires.		
Criterion: Must hold air.		
3. Complete test in allotted time.		
Criterion: One hour time limit.		
Student must satisfactorily complete all line items to pass		
test.		

File Code: 37.12.04.00.B1-1

Date Published: 3/4/76



Learning Experience Guide

UNIT: MINOR BODY ADJUSTMENTS

RATIONALE:

The techniques and procedures in this unit will enable you to adjust doors, hood, and trunk lid.

PREREQUISITES:

None

OBJECTIVE:

Use the correct procedure to adjust doors, hoods, and trunk lids.

RESOURCES:

Printed Materials

Auto Service and Repair. Martin W. Stockel, Goodheart-Willcox Company, Inc.
Motor's Auto Repair Manual. Motor. The Hearst Corporation (or equivalent).
Time and Parts Manual.

Equipment

Automobile needing doors, hood and trunk adjusted
Fender covers
Spray lubricant
Tools, Basic Hand: Chisel and Punch Set
5/32" Pin Punch
3/16" Solid
Gauge, feeler (.002" - .025")
Hammer, ball peen
Hammer, plastic tip
Handle, speed
Hex Key Set
Pliers, diagonal cutting
Pliers, needle nose
Scraper, gasket

Principal Author(s): C. Schramm/W. Osland

RESOURCES (Cont.)

Screwdriver, standard (set)
Screwdriver, Phillips (set)
Screw starter
Socket Set (3/8" drive)
  extension (3")
  ratchet
Socket Set (1/4" drive)
  extension (3")
  handle (6" flex)
  ratchet
Socket, spark plug
  extension (6")
Wrench, combination (set)
Wrench, combination ignition (set)

GENERAL INSTRUCTIONS:

This Unit consists of three Learning Activity Packages (LAPs). Each LAP will provide specific information for completion of a learning activity.

The general procedure for this Unit is as follows:

(1) Read the first assigned Learning Activity Package (LAP).
(2) Begin and complete the first assigned LAP.
(3) Complete all required LAPs for the Unit.
(4) In this Unit, the LAP and Unit tests are combined. This combined test is taken after completing the last LAP in the Unit.
(5) Take the Unit/LAP test as described in the Unit LEG "Evaluation Procedures".
(6) Proceed to the next assigned unit.

PERFORMANCE ACTIVITIES:

.01 Adjusting Doors
.02 Adjusting Hood
.03 Adjusting Trunk Lid

EVALUATION PROCEDURE:

When pretesting:

1. The student takes the unit multiple-choice pretest.
2. Successful completion is 4 out of 5 items for each LAP part of the pretest.
3. The student then takes a unit performance test if the unit pretest was successfully completed.
4. Satisfactory completion of the performance test is meeting the criteria listed on the performance test.

EVALUATION PROCEDURE (Cont.)

When post testing:

1. The student takes a multiple-choice unit post test and a unit performance test.
2. Successful unit completion is meeting the listed criteria for the performance test.

FOLLOW-THROUGH:

Go to the first assigned Learning Activity Package (LAP) listed on your Student Progress Record (SPR).

File Code: 37.12.04.01.B1-G

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Adjusting Doors

OBJECTIVE:

Use the correct procedure to adjust doors on an automobile.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test to be taken after LAP 37.12.04.03.

RESOURCES:

Motor's Auto Repair Manual.

Automobile needing door adjustment
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. Examine all of the door edges to determine in which direction the door is out of line.
2. Open and close the door slowly while watching the door jam make contact.
3. Determine whether the door needs to be adjusted or if it is the door jam that needs adjustment.
4. To adjust the door jam, obtain the proper tool and loosen the fasteners.
5. Tap the jam in the direction of the needed adjustment and tighten.
6. Close the door to see if the adjustment has corrected the problem. If unsatisfactory, loosen the door jam and adjust again.
7. To adjust the door; open the door and locate the door hinge fasteners. Loosen the fasteners and move the door in the direction of the needed adjustment. Tighten the fasteners and close the door to check adjustment results.
8. Lubricate the door jams and hinges with a heavy grease and work the doors open and close until the grease takes effect. (Wipe off excess grease.)

Principal Author(s): J. Anderson/C. Schramm/W. Osland

9. Contact the instructor to evaluate your work.
10. Clean up your work area and return all equipment.
11. Proceed on to the next LAP.

File Code: 37.12.04.02.B1-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Adjusting Hood

OBJECTIVE:

Use the correct procedure to adjust an automobile hood.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test to be taken after LAP 37.12.04.03.

RESOURCES:

Motor's Auto Repair Manual.

Automobile needing hood alignment
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. Examine closed hood to determine what adjustments are needed to properly position hood. Record needed adjustments on a work order.
2. Refer to the manual for the manufacturer's recommended adjustment procedure and adjustment points.
3. Carefully make the adjustments and retighten retaining bolts.
4. Slowly close the hood and observe the hood contact points for proper alignment.
5. Repeat this procedure until hood is properly aligned.
6. With hood fully closed and locked, test the hood latch by pulling up on the hood and observing the amount of travel. Record on the work order.
7. Refer to manual for the correct procedure for adjusting the lock down latch.
8. Adjust and test the hood until it is properly locked in place.
9. Upon completion, ask the instructor to evaluate your work.
10. Clean and return all tools and equipment.
11. Clean work area.
12. Proceed to next LAP.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

File Code: 37.12.04.03.81-0

Date Published: 3/4/76

Mountain-Plains Education & Economic Development Program, Inc.
Glasgow AFB, Montana 59231

Learning Activity Package

Student: _____

Date: _____

PERFORMANCE ACTIVITY: Adjusting Trunk Lid (Deck Lid)

OBJECTIVE:

Use the correct procedure to adjust an automobile trunk lid.

EVALUATION PROCEDURE:

Eight correct responses to a ten-item multiple choice objective test.

RESOURCES:

Motor's Auto Repair Manual.

Automobile needing trunk lid adjustment
Tools, Basic Hand: (See Unit LEG)

PROCEDURE:

Steps

1. With the trunk lid closed, observe the lid edges for proper and even spacing all the way around on the body edge. Observe for any signs of rubbing. Record observation findings on work order.
2. Refer to the manual for the recommended procedure of adjusting the lid for proper alignment.
3. Adjust the lid.
4. Test the deck lid latch for proper locking. Record results. Adjust as necessary to correct it.
5. Upon completion, ask the instructor to evaluate your work.
6. Clean and return all tools and equipment.
7. Clean work area.
8. Take and score the Unit/LAP post test.

Principal Author(s): J. Anderson/C. Schramm/W. Osland

37.12.04.00.B1-2
37.12.04.01.B1-2
37.12.04.02.B1-2
37.12.04.03.B1-2

UNIT/LAP PRE/POST TEST ANSWER KEY: MINOR BODY ADJUSTMENTS

LAP .01

1. b
2. b
3. d
4. a
5. b or A

LAP .02

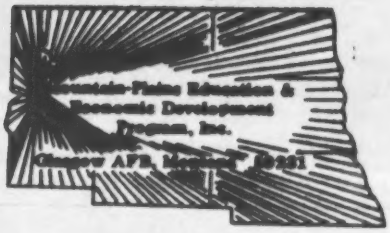
6. d
7. a
8. c

LAP .03

9. d
10. a

Student: _____ File Code: _____

Date: _____ Date Published: 3/4/76



UNIT/LAP PRE/POST TEST: MINOR BODY ADJUSTMENTS (A)

37.12.04.01

1. When adjusting a door and determining in which direction the door is out of line, a mechanic would:

   a. examine the top of the door.
   b. examine all of the door edges.
   c. open the door and look for wear marks on the door.
   d. look at the door latch to determine out-of-alignment.

2. You would determine whether the door needs adjusting or if it is the door jamb that needs adjusting by looking at the:

   a. combined door edges.
   b. door jamb while opening and closing the door.
   c. top of the door.
   d. wear marks on the inside of a door.

3. To adjust a door jamb after loosening the jamb, you would:

   a. use a press jack to hold the jamb in place and to adjust the jamb.
   b. use a pry bar to adjust the jamb.
   c. loosen the door hinge fasteners and adjust the jamb.
   d. tap the jamb in the needed adjustment.

4. To adjust the door, you would:

   a. loosen the door hinge fasteners.
   b. loosen the door jamb.
   c. use a press jack to spring the door to its original position.
   d. use a pry bar to adjust the door.

5. After you have adjusted the door jambs and hinges, you lubricate them with:

   a. light oil.
   b. heavy grease.
   c. graphite.
   d. dissolvable light grease.

37.12.04.02

6. Hood (closed) height at the front of a hood is adjusted by:

   a. adjusting the rear hood adjustments.
   b. a coil spring.
   c. bending the front of the hood.
   d. the hood latch.

37.12.04.02 cont.

7. To determine what adjustments are needed to properly adjust a hood, you would:

   a. examine the hood while it is closed.
   b. open the hood and look for wear marks.
   c. guess at the adjustment and if it is wrong you would adjust it the other way.
   d. you cannot adjust a hood without a dial indicator.

37.12.04.03

8. When the trunk is closed, the lid edges should be:

   a. closer on the front latch of the trunk.
   b. closer on the rear of the trunk.
   c. evenly spaced.
   d. it doesn't matter just so they are not rubbing.

9. When there is play in the trunk lock system when the trunk is closed, you can adjust it by:

   a. bending the trunk latch up just a little at a time until you have it adjusted.
   b. the coil spring.
   c. the hood latch.
   d. the deck lid latch.

10. If a trunk lid is out of adjustment:

   a. it could open while the car is moving.
   b. it doesn't matter as long as you can get it to close.
   c. it makes it harder for someone to break into the trunk.
   d. it can be easily fixed by bending the latch with a tire iron.

37.12.04.00.B1-2 37.12.04.01.B1-2
37.12.04.02.B1-2 37.12.04.03.B1-2

Student: _____ File Code: _____

Date: _____ Date Published: 6/7/77

UNIT/LAP PRE/POST TEST: MINOR BODY ADJUSTMENTS (B)

37.12.04.01

1. After you have adjusted the door jambs and hinges, you lubricate them with:

   a. light oil
   b. heavy grease
   c. graphite
   d. dissolvable light grease

2. To adjust the door, you would:

   a. loosen the door hinge fasteners
   b. loosen the door jamb
   c. use a press jack to spring the door to its original position
   d. use a pry bar to adjust the door

3. To adjust a door jamb after loosening the jamb, you would:

   a. use a press jack to hold the jamb in place and to adjust the jamb
   b. use a pry bar to adjust the jamb
   c. loosen the door hinge fasteners and adjust the jamb
   d. tap the jamb in the needed adjustment

4. You would determine whether the door needs adjusting or if it is the door jamb that needs adjusting by looking at the:

   a. combined door edges
   b. door jamb while opening and closing the door
   c. top of the door
   d. wear marks on the inside of a door

5. When adjusting a door and determining in which direction the door is out of line, a mechanic would:

   a. examine the top of the door
   b. examine all of the door edges
   c. open the door and look for wear marks on the door
   d. look at the door latch to determine out-of-alignment

37.12.04.02

6. To determine what adjustments are needed to properly adjust a hood, you would:

   a. examine the hood while it is closed
   b. open the hood and look for wear marks
   c. guess at the adjustment and if it is wrong you would adjust it the other way
   d. you cannot adjust a hood without a dial indicator

37.12.04.02 cont.

7. Hood (closed) height at the front of a hood is adjusted by:

   a. adjusting the rear hood adjustments
   b. a coil spring
   c. bending the front of the hood
   d. the hood latch

37.12.04.03

8. If a trunk lid is out of adjustment:

   a. it could open while the car is moving
   b. it doesn't matter as long as you can get it to close
   c. it makes it harder for someone to break into the trunk
   d. it can be easily fixed by bending the latch with a tire iron

9. When there is play in the trunk lock system when the trunk is closed, you can adjust it by:

   a. bending the trunk latch up just a little at a time until you have it adjusted
   b. the coil spring
   c. the hood latch
   d. the deck lid latch

10. When the trunk is closed, the lid edges should be:

   a. closer on the front latch of the trunk
   b. closer on the rear of the trunk
   c. evenly spaced
   d. it doesn't matter just so they are not rubbing

UNIT/LAP PRE/POST TEST ANSWER KEY: MINOR BODY ADJUSTMENTS (B)

1. B
2. A
3. D
4. B
5. B
6. A
7. D
8. A
9. D
10. C

Date: _____ Date Published: 6/7/77

UNIT/LAP PRE/POST TEST: MINOR BODY ADJUSTMENTS (C)

37.12.04.01

1. When adjusting a door and determining in which direction the door is out of line, a mechanic would:

   a. examine the top of the door
   b. examine all of the door edges
   c. open the door and look for wear marks on the door
   d. look at the door latch to determine out-of-alignment

2. To adjust the door, you would:

   a. loosen the door hinge fasteners
   b. loosen the door jamb
   c. use a press jack to spring the door to its original position
   d. use a pry bar to adjust the door

3. You could determine whether the door needs adjusting or if it is the door jamb that needs adjusting by looking at the:

   a. combined door edges
   b. door jamb while opening and closing the door
   c. top of the door
   d. wear marks on the inside of a door

4. After you have adjusted the door jambs and hinges, you lubricate them with:

   a. light oil
   b. heavy grease
   c. graphite
   d. dissolvable light grease

5. To adjust a door jamb after loosening the jamb, you would:

   a. use a press jack to hold the jamb in place and to adjust the jamb
   b. use a pry bar to adjust the jamb
   c. loosen the door hinge fasteners and adjust the jamb
   d. tap the jamb in the needed adjustment

37.12.04.02

6. Hood (closed) height at the front of a hood is adjusted by:

   a. adjusting the rear hood adjustments
   b. a coil spring
   c. bending the front of the hood
   d. the hood latch

7. To determine what adjustments are needed to properly adjust a hood, you would:

   a. examine the hood while it is closed
   b. open the hood and look for wear marks
   c. guess at the adjustment and if it is wrong you would adjust it the other way
   d. you cannot adjust a hood without a dial indicator

37.12.04.03

8. When the trunk is closed, the lid edges should be:

   a. closer on the front latch of the trunk
   b. closer on the rear of the trunk
   c. evenly spaced
   d. it doesn't matter just so they are not rubbing

9. If a trunk lid is out of adjustment:

   a. it could open while the car is moving
   b. it doesn't matter as long as you can get it to close
   c. it makes it harder for someone to break into the trunk
   d. it can be easily fixed by bending the latch with a tire iron

10. When there is play in the trunk lock system when the trunk is closed, you can adjust it by:

   a. bending the trunk latch up just a little at a time until you have it adjusted
   b. the coil spring
   c. the hood latch
   d. the deck lid latch

UNIT/LAP PRE/POST TEST ANSWER KEY: MINOR BODY ADJUSTMENTS (C)

1. B
2. A
3. B
4. B
5. D
6. D
7. A
8. C
9. A
10. D

Student: _____ File Code: 37.12.04.00.B1-5

Date: _____ Date Published: 3/4/76

Family Pay Number: _____ Sex: M F (Circle 1)

UNIT PERFORMANCE TEST: MINOR BODY ADJUSTMENTS

OBJECTIVE:

Perform minor body adjustments.

TASK:

The student will be assigned a vehicle on which he must adjust the hood,doors, and trunk lid if needed.

ASSIGNMENT:

CONDITIONS:

The student may use only those materials provided for the test and will perform the test in the auto shop.

RESOURCES:

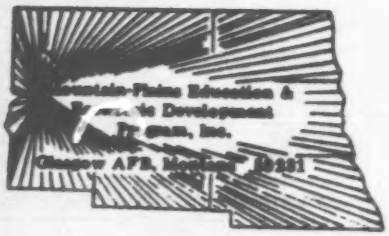
Service manual
Time and parts manuals
Fender covers
Spray lubricant

RESOURCES: (Continued)

Combination Ignition wrench set
Combination Wrench Set
Standard Screwdriver Set
Phillips Screwdriver Set
Feeler gauge - .002 through .025 inch
Hex Key Set
Diagonal Cutting Pliers
Needle Nose Plier
1/4" Drive Socket Set
Ratchet - 3" and 6" extensions - 6" flex handle
Ball Peen hammer
Plastic Tip Hammer
Screw Starter
Chisel and Punch Set
5/32" Pin Punch - 3/16" Solid
Gasket scraper
3/8" Drive Ratchet
3" Extension
Spark Plug Socket
6" Extension
Speed Handle
3/8" Drive Socket Set

Student: _____ File Code: 37.12.04.00.B1-5

Date: _____ Date Published: 3/4/76



PERFORMANCE CHECKLIST:

OVERALL PERFORMANCE: Satisfactory_____ Unsatisfactory_____

	CRITERION Met	Not Met
Objective:		
1. Adjust hood.		
Criterion: Must fit correctly to body and open and close		
correctly.		
2. Adjust trunk lid.		
Criterion: Must fit correctly to body and open and close		
correctly.		
3. Adjust doors.		
Criterion: Must fit body correctly and open and close		
correctly.		
4. Complete test in allotted time.		
Criterion: Must meet flat rate on assigned vehicle.		
Student must satisfactorily complete 3 of 4 line items to pass		
test.		